

RECEIVED
CENTRAL FAX CENTER

SEP 26 2008

AMENDMENT(S) TO THE CLAIMS

1. (Currently amended) Apparatus as in Claim 17, for
~~identifying a blank segment in a set of visual recording data,~~
further comprising:

a plurality of blank frame detectors, each blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a blank frame; and wherein:

~~a blank segment detector,~~ the blank segment detector is adapted to receive input from the plurality of blank frame detectors regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.

2. (Original) Apparatus as in Claim 1, wherein:

the plurality of blank frame detectors comprise first and second blank frame detectors;

the first blank frame detector is adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a blank frame of a first type; and

the second blank frame detector is adapted to evaluate a frame of visual recording data to determine whether the

frame of visual recording data is a blank frame of a second type, the second type being different from the first type.

3. (Original) Apparatus as in Claim 1, wherein at least one of the plurality of blank frame detectors is adapted to detect frames of visual recording data that represent an image that is all or nearly all one color.

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Currently amended) Apparatus as in Claim 17, for
~~identifying a blank segment in a set of visual recording data,~~
further comprising:

a plurality of blank frame detector, the detectors,
each blank frame detector adapted to evaluate a frame of
visual recording data to determine whether the frame of
visual recording data is a blank frame, and, if so, at least
one of the plurality of blank frame detectors adapted to
determine, if a frame is determined to be a blank frame,
whether the blank frame is of a first type or of a second
type that is different from the first type; and wherein:

~~a blank segment detector,~~ the blank segment detector is adapted to receive input from the plurality of blank frame detector detectors regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.

9. (Canceled)

10. (Currently amended) Apparatus ~~as in Claim 9, wherein:~~
for identifying a blank segment in a set of visual recording data, comprising:

a blank frame detector, the blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a blank frame representing an image that is all or nearly all one color, wherein the blank frame detector is adapted to:

determine if, for each color component, the numerical value of a specified number of the pixels of the frame is within a specified magnitude of the average numerical value of that color component for all of the pixels of the frame; and

determine if the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified

relationship with the average numerical value of one or more other color components, wherein:

if, for each color component, the numerical value of the specified number of the pixels of the frame is within the specified magnitude of the average numerical value of that color component for all of the pixels of the frame, and if the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components, then the frame is a blank frame;

the numerical value of each color component of each pixel can vary between 0 and 255 inclusive;

the specified number of pixels is greater than or equal to 80% of the pixels; and

the specified magnitude is 8; and

a blank segment detector, the blank segment detector adapted to receive input from the blank frame detector regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.

11. (Original) Apparatus as in Claim 10, wherein the blank frame detector is adapted to detect frames of visual recording data that represent an image that is all or nearly all blue or purple.

12. (Original) Apparatus as in Claim 11, wherein:

each pixel of the frame of visual recording data is represented by a red color component, a green color component and a blue color component, each color component having a value between 0 and 255 inclusive;

the specified range for the red color component is less than 25;

the specified range for the green color component is less than 25;

the specified range for the blue color component is between 60 and 130;

the magnitude of the red color component subtracted from the green color component is less than 20;

the magnitude of the green color component subtracted from the blue color component is less than 50; and

the magnitude of the red color component subtracted from the blue color component is less than 85.

13. (Original) Apparatus as in Claim 10, wherein the blank frame detector is adapted to detect frames of visual recording data that represent an image that is all or nearly all silver.

14. (Original) Apparatus as in Claim 13, wherein

each pixel of the frame of visual recording data is represented by a red color component, a green color component and a blue color component, each color component having a value between 0 and 255 inclusive;

the specified range for the red color component is between 60 and 130;

the specified range for the green color component is between 60 and 130;

the specified range for the blue color component is between 60 and 130;

the absolute value of the difference between the magnitude of the red color component and the magnitude of the green color component is less than 10;

the absolute value of the difference between the magnitude of the green color component and the magnitude of the blue color component is less than 10; and

the absolute value of the difference between the magnitude of the red color component and the magnitude of the blue color component is less than 10.

15. (Original) Apparatus as in Claim 10, wherein the blank frame detector is adapted to detect frames of visual recording data that represent an image that is all or nearly all black.

16. (Original) Apparatus as in Claim 15, wherein:

each pixel of the frame of visual recording data is represented by a red color component, a green color component and a blue color component, each color component having a value between 0 and 255 inclusive;

the specified range for the red color component is less than 10;

the specified range for the green color component is less than 10; and

the specified range for the blue color component is less than 10.

17. (Currently amended) Apparatus for identifying a blank segment in a set of visual recording data, comprising:

a blank frame detector, the blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a snow-static frame, wherein the blank frame detector ~~further comprises~~ is adapted to:

~~means for determining~~ determine if a specified maximum variation from pure gray at each pixel is less than a specified magnitude;

~~means for determining~~ determine if the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components; and

~~means for determining~~ determine if the vertical and horizontal correlation coefficients are within corresponding specified ranges and/or have a specified relationship with one another, wherein:

if the specified maximum variation from pure gray at each pixel is less than a specified magnitude, the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components, and the vertical and horizontal correlation coefficients are within corresponding specified ranges and/or have a specified relationship with one another, then the frame is a snow-static frame; and

a blank segment detector, the blank segment detector adapted to receive input from the blank frame detector regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.

18. (Original) Apparatus as in Claim 17, wherein:

each pixel of the frame of visual recording data is represented by a red color component, a green color

component and a blue color component, each color component having a value between 0 and 255 inclusive;

the maximum variation from pure gray of each color component at each pixel is less than 15;

the specified range for the green color component is between 5 and 45;

the absolute value of the difference between the magnitude of the red color component and the magnitude of the green color component is less than 5;

the absolute value of the difference between the magnitude of the green color component and the magnitude of the blue color component is less than 5; and

the absolute value of the difference between the magnitude of the red color component and the magnitude of the blue color component is less than 5;

the vertical correlation coefficient is less than 0.41;

the horizontal correlation coefficient is less than 0.85; and

the horizontal correlation coefficient is greater than twice the vertical correlation coefficient.

19. (Currently amended) Apparatus for identifying a blank segment in a set of visual recording data, comprising:

a blank frame detector, the blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a snow-static frame;

a blank segment detector, the blank segment detector adapted to receive input from the blank frame detector regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content; and wherein:

the blank frame detector is further adapted to evaluate ~~means for evaluating~~, when a frame is determined to be a snow-static frame, the temporal correlation coefficient over a specified window of frames of visual recording data that includes the snow static frame to either confirm or reject the determination that the frame is a snow-static frame.

20. (Currently amended) Apparatus as in Claim 19, wherein ~~the means for evaluating~~ evaluation of the temporal correlation coefficient further comprises:

~~means for~~ determining if all of the frames in the window are snow-static frames;

~~means for~~ determining if at least one of the frames in the window has a temporal correlation coefficient with greater than a first specified magnitude; and

~~means for~~ determining if at least one of the frames in the window has a temporal correlation coefficient with less than a second specified magnitude.

21. (Original) Apparatus as in Claim 20, wherein:
the first specified magnitude is 0.98; and
the second specified magnitude is 0.02.

22. (Currently amended) Apparatus as in Claim 17, for
~~identifying a blank segment in a set of visual recording data,~~
further comprising:

~~a blank frame detector, the blank frame detector~~
~~adapted to evaluate a frame of visual recording data to~~
~~determine whether the frame of visual recording data is a~~
~~blank frame; and~~

a plurality of blank segment detectors, each blank
segment detector adapted to receive input from the a blank
frame detector regarding a plurality of frames of visual
recording data and to evaluate a characteristic of the
plurality of frames of visual recording data to determine
whether the plurality of frames of visual recording data is
a blank segment that does not correspond to recorded visual
content.

23. (Original) Apparatus as in Claim 22, wherein:

the plurality of blank segment detectors comprise first
and second blank segment detectors;

the first blank segment detector is adapted to detect
blank segments including blank frames of a first type; and

the second blank segment detector is adapted to detect blank segments including blank frames of a second type, the second type being different from the first type.

24. (Currently amended) Apparatus as in Claim 17, wherein
~~for identifying a blank segment in a set of visual recording~~
~~data, comprising:~~

~~a blank frame detector, the blank frame detector~~
~~adapted to evaluate a frame of visual recording data to~~
~~determine whether the frame of visual recording data is a~~
~~blank frame; and~~

~~a blank segment detector, the blank segment detector is~~
~~adapted to receive input from the blank frame detector~~
~~regarding a plurality of frames of visual recording data and~~
~~to evaluate a characteristic of the plurality of frames of~~
~~visual recording data to determine whether the plurality of~~
~~frames of visual recording data is a blank segment that does~~
~~not correspond to recorded visual content and that includes~~
~~one or more blank frames of a first type and one or more~~
~~blank frames of a second type that is different from the~~
~~first type.~~

25. (Original) Apparatus as in Claim 24, wherein the blank segment detector is adapted to detect a first type of blank segment including blank frames of a first type, or a second type of blank segment including blank frames of a second type that is different from the first type of blank frames.

26. (Currently amended) Apparatus as in Claim 3, wherein
~~for identifying a blank segment in a set of visual recording~~
~~data, comprising:~~

~~a blank frame detector, the blank frame detector~~
~~adapted to evaluate a frame of visual recording data to~~
~~determine whether the frame of visual recording data is a~~
~~blank frame; and~~

~~a blank segment detector, the blank segment detector is~~
~~adapted to receive input from the blank frame detector~~
~~regarding a plurality of frames of visual recording data and~~
~~to evaluate a characteristic of the plurality of frames of~~
~~visual recording data to determine whether the plurality of~~
~~frames of visual recording data is a blank segment that does~~
~~not correspond to recorded visual content and that is all or~~
~~nearly all one color.~~

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Currently amended) Apparatus as in Claim 26, wherein
the blank segment detector ~~further comprises means for~~
~~determining~~ is adapted to determine if there are a specified
number of frames in a sequence of frames that have been
determined to be blank frames of the same color, wherein if there

are a specified number of frames in the sequence of frames that have been determined to be blank frames of the same color, then the segment is a blank segment.

31. (Original) Apparatus as in Claim 30, wherein the specified number of frames is 95% of the frames in the sequence of frames after the first 6 frames in the sequence of frames.

32. (Currently amended) Apparatus as in Claim 30, wherein the blank segment detector ~~further comprises means for determining~~ is adapted to determine if the blank frames of the same color in the sequence of frames differ in color by no more than a specified amount, wherein if there are a specified number of frames in the sequence of frames that have been determined to be blank frames of the same color and the blank frames of the same color in the sequence of frames differ in color by no more than a specified amount, then the segment is a blank segment.

33. (Original) Apparatus as in Claim 32, wherein the specified amount is a variance of the average color of the frames of the same color of less than 10.

34. (Currently amended) Apparatus as in Claim 17, wherein ~~for identifying a blank segment in a set of visual recording data, comprising:~~

~~a blank frame detector, the blank frame detector adapted to evaluate a frame of visual recording data to~~

~~determine whether the frame of visual recording data is a snow-static frame; and~~

a blank segment detector, the blank segment detector is adapted to ~~receive input from the blank frame detector regarding a plurality of frames of visual recording data and~~ to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment ~~that does not correspond to recorded visual content and~~ that is all or nearly all snow-static.

35. (Currently amended) Apparatus as in Claim 34, wherein the blank segment detector ~~further comprises means for determining~~ is adapted to determine if there are a specified number of frames in a sequence of frames that have been determined to be snow-static frames, wherein if there are a specified number of frames in the sequence of frames that have been determined to be snow-static frames, then the segment is a blank segment.

36. (Original) Apparatus as in Claim 35, wherein the specified number of frames is 95% of the frames in the sequence of frames after the first 6 frames in the sequence of frames.

37. (Currently amended) Apparatus as in Claim 35, wherein:
the blank frame detector is adapted to evaluate a frame
of visual recording data to determine whether the frame of
visual recording data is a black frame; and
the blank segment detector ~~further comprises~~ is adapted
to:

~~means for determining~~ determine if a specified
number of frames in the sequence of frames have been
identified either as black screen frames or snow-static
frames;

~~means for determining~~ determine if the black
screen frames in the sequence of frames differ in color
by no more than a specified amount, wherein:

if there are a specified number of frames in
a sequence of frames that have been determined to
be snow-static frames, a specified number of
frames in the sequence of frames have been
identified either as black screen frames or snow-
static frames, and the black screen frames in the
sequence of frames differ in color by no more than
a specified amount, then the segment is a blank
segment.

38. (Original) Apparatus as in Claim 37, wherein:
the specified number of snow-static frames in the
sequence of frames is 5;

the specified number of frames is 95% of the frames in the sequence of frames after the first 6 frames of the sequence of frames; and

the specified amount is a variance of the average color of the black frames of less than 10.

39. (Currently amended) Apparatus as in Claim 17, wherein ~~for identifying a blank segment in a set of visual recording data, comprising:~~

~~a blank frame detector, the blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a blank frame; and~~

~~a blank segment detector, the blank segment detector adapted to receive input from the blank frame detector regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content, wherein:~~

the blank frame and blank segment determinations are made for successive frames of visual recording data as the frames of visual recording data are acquired or as the frames of visual recording data are being processed for another purpose.

40. (Currently amended) Apparatus as in Claim 39, ~~further comprising means for communicating~~ adapted to communicate a categorization of a current segment to another process operating on the set of visual recording data.

41. (Original) Apparatus as in Claim 40, wherein the set of visual recording data is initially in an analog form and the other process is a digitization process.

42. (Currently amended) Apparatus as in Claim 41, wherein:
the ~~means for communicating~~ a current segment categorization ~~further comprises means for communicating~~ the duration of a current blank segment ~~to the digitization process~~; and

the digitization process can be terminated if the duration of the current blank segment exceeds a specified duration.

43. (Currently amended) Apparatus as in Claim 40, wherein the ~~means for communicating~~ communication of a current segment categorization further comprises:

~~means for~~ identifying the beginning of a first content segment in the set of visual recording data; and

~~means for~~ communicating the identification of the beginning of the first content segment to the other process operating on the set of visual recording data.

44. (Original) Apparatus as in Claim 43, wherein:

the other process is a process for recording the set of visual recording data onto a data storage medium; and

visual recording data is not recorded onto the data storage medium until the identification of the beginning of the first content segment is communicated to the recording process.

45. (Currently amended) Apparatus as in Claim 17, ~~for identifying a blank segment in a set of visual recording data, comprising:~~

~~a blank frame detector, the blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a blank frame;~~

~~a blank segment detector, the blank segment detector adapted to receive input from the blank frame detector regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content; and~~

~~means for using~~ adapted to use the detection of one or more blank segments to identify one or more segment boundaries in the set of visual recording data, each segment boundary delineating a transition from a segment of one type to a segment of another type.

46. (Currently amended) Apparatus as in Claim 45, ~~further comprising~~ adapted to:

~~means for identifying~~ identify a segment boundary at the beginning of a blank segment; and

~~means for marking~~ mark the identified segment boundary to cause the blank segment following the identified segment boundary to be excluded from subsequent interaction with the set of visual recording data.

47. (Original) Apparatus as in Claim 46, wherein the set of visual recording data is used to generate a display of the corresponding recorded visual content, a display of the recorded visual content corresponding to the marked segment not being generated.

48. (Original) Apparatus as in Claim 46, wherein the set of visual recording data is processed in a specified manner, the visual recording data in the marked segment not being processed.

49. (Currently amended) Apparatus as in Claim 45, ~~further comprising~~ adapted to:

~~means for identifying~~ identify a segment boundary at the beginning of a blank segment; and

~~means for deleting~~ delete the visual recording data in the blank segment from the set of visual recording data.

50. (Currently amended) Apparatus as in Claim 45, ~~further comprising adapted to:~~

~~means for determining~~ determine the duration of a blank segment; and

~~means for identifying~~ identify the end of recorded visual content in the set of visual recording data as the beginning of a blank segment having greater than a specified duration.

51. (Currently amended) A method for identifying a blank segment in a set of visual recording data, comprising the steps of:

evaluating a frame of visual recording data to determine whether the frame of visual recording data is a blank ~~snow-static~~ frame, ~~and, if so, whether the blank frame is of a first type or of a second type that is different from the first type;~~ and

receiving input regarding blank frame determinations for a plurality of frames of visual recording data and evaluating a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content; and

evaluating, when a frame is determined to be a snow-static frame, the temporal correlation coefficient over a specified window of frames of visual recording data that

includes the snow-static frame to either confirm or reject the determination that the frame is a snow-static frame.

52. (Currently amended) A computer readable medium or media encoded with one or more computer programs for identifying a blank segment in a set of visual recording data, comprising:

instructions for evaluating a frame of visual recording data to determine whether the frame of visual recording data is a ~~blank~~ snow-static frame, ~~and, if so, whether the blank frame is of a first type or of a second type that is different from the first type; and~~

instructions for receiving input regarding blank frame determinations for a plurality of frames of visual recording data and evaluating a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content; and

instructions for evaluating, when a frame is determined to be a snow-static frame, the temporal correlation coefficient over a specified window of frames of visual recording data that includes the snow-static frame to either confirm or reject the determination that the frame is a snow-static frame.

53. (Currently amended) Apparatus as in Claim 41, wherein ~~the further comprising a second~~ blank frame detector ~~is adapted to evaluate, if a frame of visual recording data is determined to be a blank frame,~~ to determining whether the frame is a blank frame of a first type or a blank frame of a second type that is different from the first type.

54. (Currently amended) Apparatus as in Claim 41, wherein the blank segment detector is adapted to receive input from the plurality of blank frame detectors regarding a plurality of frames of visual recording data and to evaluate a characteristic of that plurality of frames of visual recording data to determine whether that plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content and to determine, if the plurality of frames of visual recording data is determined to be a blank segment, whether the blank segment includes one or more blank frames of a first type and one or more blank frames of a second type that is different from the first type.

55. (New) Apparatus as in Claim 17, wherein the blank frame detector is further adapted to evaluate, when a frame is determined to be a snow-static frame, the temporal correlation coefficient over a specified window of frames of visual recording data that includes the snow-static frame to either confirm or reject the determination that the frame is a snow-static frame.

56. (New) A method for identifying a blank segment in a set of visual recording data, comprising the steps of:

evaluating a frame of visual recording data to determine whether the frame of visual recording data is a snow-static frame, the step of evaluating a frame of visual recording data further comprising the steps of:

determining if a specified maximum variation from pure gray at each pixel is less than a specified magnitude;

determining if the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components; and

determining if the vertical and horizontal correlation coefficients are within corresponding specified ranges and/or have a specified relationship with one another, wherein:

if the specified maximum variation from pure gray at each pixel is less than a specified magnitude, the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components, and the vertical and horizontal correlation coefficients are within corresponding specified ranges and/or

have a specified relationship with one another,
then the frame is a snow-static frame; and
receiving input regarding blank frame determinations
for a plurality of frames of visual recording data and
evaluating a characteristic of the plurality of frames of
visual recording data to determine whether the plurality of
frames of visual recording data is a blank segment that does
not correspond to recorded visual content.

57. (New) A computer readable medium or media encoded with
one or more computer programs for identifying a blank segment in
a set of visual recording data, comprising:

instructions for evaluating a frame of visual recording
data to determine whether the frame of visual recording data
is a snow-static frame, the instructions for evaluating a
frame of visual recording data further comprising:

instructions for determining if a specified
maximum variation from pure gray at each pixel is less
than a specified magnitude;

instructions for determining if the average
numerical value of each color component for all of the
pixels of the frame is within a specified range and/or
has a specified relationship with the average numerical
value of one or more other color components; and

instructions for determining if the vertical and
horizontal correlation coefficients are within

corresponding specified ranges and/or have a specified relationship with one another, wherein:

if the specified maximum variation from pure gray at each pixel is less than a specified magnitude, the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components, and the vertical and horizontal correlation coefficients are within corresponding specified ranges and/or have a specified relationship with one another, then the frame is a snow-static frame; and

instructions for receiving input regarding blank frame determinations for a plurality of frames of visual recording data and evaluating a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.

58. (New) Apparatus as in Claim 19, further comprising:

a plurality of blank frame detectors, each blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a blank frame; and wherein:

the blank segment detector is adapted to receive input from the plurality of blank frame detectors regarding a

plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.

59. (New) Apparatus as in Claim 58, wherein:

the plurality of blank frame detectors comprise first and second blank frame detectors;

the first blank frame detector is adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a blank frame of a first type; and

the second blank frame detector is adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a blank frame of a second type, the second type being different from the first type.

60. (New) Apparatus as in Claim 58, wherein at least one of the plurality of blank frame detectors is adapted to detect frames of visual recording data that represent an image that is all or nearly all one color.

61. (New) Apparatus as in Claim 19, further comprising:

a plurality of blank frame detectors, each blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data

is a blank frame, at least one of the plurality of blank frame detectors adapted to determine, if a frame is determined to be a blank frame, whether the blank frame is of a first type or of a second type that is different from the first type; and wherein:

the blank segment detector is adapted to receive input from the plurality of blank frame detectors regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.

62. (New) Apparatus as in Claim 19, further comprising a plurality of blank segment detectors, each blank segment detector adapted to receive input from a blank frame detector regarding a plurality of frames of visual recording data and to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.

63. (New) Apparatus as in Claim 62, wherein:

the plurality of blank segment detectors comprise first and second blank segment detectors;

the first blank segment detector is adapted to detect blank segments including blank frames of a first type; and

the second blank segment detector is adapted to detect blank segments including blank frames of a second type, the second type being different from the first type.

64. (New) Apparatus as in Claim 19, wherein the blank segment detector is adapted to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that includes one or more blank frames of a first type and one or more blank frames of a second type that is different from the first type.

65. (New) Apparatus as in Claim 64, wherein the blank segment detector is adapted to detect a first type of blank segment including blank frames of a first type, or a second type of blank segment including blank frames of a second type that is different from the first type of blank frames.

66. (New) Apparatus as in Claim 60, wherein the blank segment detector is adapted to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that is all or nearly all one color.

67. (New) Apparatus as in Claim 66, wherein the blank segment detector is adapted to determine if there are a specified number of frames in a sequence of frames that have been determined to be blank frames of the same color, wherein if there are a specified number of frames in the sequence of frames that have been determined to be blank frames of the same color, then the segment is a blank segment.

68. (New) Apparatus as in Claim 67, wherein the specified number of frames is 95% of the frames in the sequence of frames after the first 6 frames in the sequence of frames.

69. (New) Apparatus as in Claim 67, wherein the blank segment detector is adapted to determine if the blank frames of the same color in the sequence of frames differ in color by no more than a specified amount, wherein if there are a specified number of frames in the sequence of frames that have been determined to be blank frames of the same color and the blank frames of the same color in the sequence of frames differ in color by no more than a specified amount, then the segment is a blank segment.

70. (Original) Apparatus as in Claim 69, wherein the specified amount is a variance of the average color of the frames of the same color of less than 10.

71. (New) Apparatus as in Claim 19, wherein the blank segment detector is adapted to evaluate a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that is all or nearly all snow-static.

72. (New) Apparatus as in Claim 71, wherein the blank segment detector is adapted to determine if there are a specified number of frames in a sequence of frames that have been determined to be snow-static frames, wherein if there are a specified number of frames in the sequence of frames that have been determined to be snow static frames, then the segment is a blank segment.

73. (New) Apparatus as in Claim 72, wherein the specified number of frames is 95% of the frames in the sequence of frames after the first 6 frames in the sequence of frames.

74. (New) Apparatus as in Claim 72, wherein:

the blank frame detector is adapted to evaluate a frame of visual recording data to determine whether the frame of visual recording data is a black frame; and

the blank segment detector is adapted to:

determine if a specified number of frames in the sequence of frames have been identified either as black screen frames or snow-static frames;

determine if the black screen frames in the sequence of frames differ in color by no more than a specified amount, wherein:

if there are a specified number of frames in a sequence of frames that have been determined to be snow-static frames, a specified number of frames in the sequence of frames have been identified either as black screen frames or snow-static frames, and the black screen frames in the sequence of frames differ in color by no more than a specified amount, then the segment is a blank segment.

75. (New) Apparatus as in Claim 74, wherein:

the specified number of snow-static frames in the sequence of frames is 5;

the specified number of frames is 95% of the frames in the sequence of frames after the first 6 frames of the sequence of frames; and

the specified amount is a variance of the average color of the black frames of less than 10.

76. (New) Apparatus as in Claim 19, wherein the blank frame and blank segment determinations are made for successive frames of visual recording data as the frames of visual recording data are acquired or as the frames of visual recording data are being processed for another purpose.

77. (New) Apparatus as in Claim 76, adapted to communicate a categorization of a current segment to another process operating on the set of visual recording data.

78. (New) Apparatus as in Claim 77, wherein the set of visual recording data is initially in an analog form and the other process is a digitization process.

79. (New) Apparatus as in Claim 78, wherein:

the current segment categorization comprises the duration of a current blank segment; and

the digitization process can be terminated if the duration of the current blank segment exceeds a specified duration.

80. (New) Apparatus as in Claim 78, further comprising a second blank frame detector adapted to evaluate a frame of visual recording data to determine whether the frame is a blank frame of a first type or a blank frame of a second type that is different from the first type.

81. (New) Apparatus as in Claim 78, wherein the blank segment detector is adapted to receive input from the plurality of blank frame detectors regarding a plurality of frames of visual recording data and to evaluate a characteristic of that plurality of frames of visual recording data to determine whether that plurality of frames of visual recording data is a blank

segment that does not correspond to recorded visual content and to determine, if the plurality of frames of visual recording data is determined to be a blank segment, whether the blank segment includes one or more blank frames of a first type and one or more blank frames of a second type that is different from the first type.

82. (New) Apparatus as in Claim 77, wherein the communication of a current segment categorization further comprises:

- identifying the beginning of a first content segment in the set of visual recording data; and

- communicating the identification of the beginning of the first content segment to the other process operating on the set of visual recording data.

83. (New) Apparatus as in Claim 82, wherein:

- the other process is a process for recording the set of visual recording data onto a data storage medium; and

- visual recording data is not recorded onto the data storage medium until the identification of the beginning of the first content segment is communicated to the recording process.

84. (New) Apparatus as in Claim 19, adapted to use the detection of one or more blank segments to identify one or more segment boundaries in the set of visual recording data, each segment boundary delineating a transition from a segment of one type to a segment of another type.

85. (New) Apparatus as in Claim 84, adapted to:

identify a segment boundary at the beginning of a blank segment; and

mark the identified segment boundary to cause the blank segment following the identified segment boundary to be excluded from subsequent interaction with the set of visual recording data.

86. (New) Apparatus as in Claim 85, wherein the set of visual recording data is used to generate a display of the corresponding recorded visual content, a display of the recorded visual content corresponding to the marked segment not being generated.

87. (New) Apparatus as in Claim 85, wherein the set of visual recording data is processed in a specified manner, the visual recording data in the marked segment not being processed.

SEP 26 2008

88. (New) Apparatus as in Claim 84, adapted to:
- identify a segment boundary at the beginning of a blank segment; and
 - delete the visual recording data in the blank segment from the set of visual recording data.
89. (New) Apparatus as in Claim 84, adapted to:
- determine the duration of a blank segment; and
 - identify the end of recorded visual content in the set of visual recording data as the beginning of a blank segment having greater than a specified duration.
90. (New) Apparatus as in Claim 10, wherein:
- the blank frame and blank segment determinations are made for successive frames of visual recording data as the frames of visual recording data are acquired or as the frames of visual recording data are being processed for another purpose;
 - the set of visual recording data is initially in an analog form;
 - the apparatus is adapted to communicate a categorization of a current segment to a digitization process;
 - the current segment categorization comprises the duration of a current blank segment; and

the digitization process can be terminated if the duration of the current blank segment exceeds a specified duration.

91. (New) A method for identifying a blank segment in a set of visual recording data, comprising the steps of:

evaluating a frame of visual recording data to determine whether the frame of visual recording data is a blank frame representing an image that is all or nearly all one color, the step of evaluating a frame of visual recording data further comprising the steps of:

determining if, for each color component, the numerical value of a specified number of the pixels of the frame is within a specified magnitude of the average numerical value of that color component for all of the pixels of the frame; and

determining if the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components, wherein:

if, for each color component, the numerical value of the specified number of the pixels of the frame is within the specified magnitude of the average numerical value of that color component for all of the pixels of the frame, and if the average numerical value of each color component

for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components, then the frame is a blank frame;

the numerical value of each color component of each pixel can vary between 0 and 255 inclusive;

the specified number of pixels is greater than or equal to 80% of the pixels; and

the specified magnitude is 8; and

receiving input regarding blank frame determinations for a plurality of frames of visual recording data and evaluating a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content

92. (New) A computer readable medium or media encoded with one or more computer programs for identifying a blank segment in a set of visual recording data, comprising:

instructions for evaluating a frame of visual recording data to determine whether the frame of visual recording data is a blank frame representing an image that is all or nearly all one color, the instructions for evaluating a frame of visual recording data further comprising:

instructions for determining if, for each color component, the numerical value of a specified number of the pixels of the frame is within a specified magnitude of the average numerical value of that color component for all of the pixels of the frame; and

instructions for determining if the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components, wherein:

if, for each color component, the numerical value of the specified number of the pixels of the frame is within the specified magnitude of the average numerical value of that color component for all of the pixels of the frame, and if the average numerical value of each color component for all of the pixels of the frame is within a specified range and/or has a specified relationship with the average numerical value of one or more other color components, then the frame is a blank frame;

the numerical value of each color component of each pixel can vary between 0 and 255 inclusive;

the specified number of pixels is greater than or equal to 80% of the pixels; and

the specified magnitude is 8; and

instructions for receiving input regarding blank frame determinations for a plurality of frames of visual recording data and evaluating a characteristic of the plurality of frames of visual recording data to determine whether the plurality of frames of visual recording data is a blank segment that does not correspond to recorded visual content.